

### **Amendments to the Claims**

1. (original) A radiation flux imaging system comprising:  
non-imaging radiation detection means;  
position sensing means, to detect the position and orientation of said radiation detection means;  
processing means to process position and orientation data from said position sensing means, the presence or absence of contact from said contact sensing means and local radiation flux from said radiation detection means to determine the surface geometry of a surface to be imaged and the corresponding field of radiation flux; and  
display means, to display said geometry and radiation flux field to a user.
2. (original) A system according to claim 1, further comprising contact sensing means, to detect contact of said radiation detection means with a surface to be imaged.
3. (currently amended) A system according to ~~any preceding~~ claim 1 wherein said processing means further includes means to identify positions corresponding to inadequate data collection, and means to communicate those positions to a user, in use.
4. (currently amended) A system according to ~~any preceding~~ claim 1 further comprising means to bias said radiation detection means away from a surface to be imaged, and processing means to calculate the depth of a radiation source below said surface to be imaged by comparison of the local radiation flux in the biased and unbiased positions.
5. (currently amended) A system according to ~~any preceding~~ claim 1 further comprising means to mark the surface to be imaged.
6. (cancelled)
7. (currently amended) A system according to ~~any preceding~~ claim 1 wherein the position sensing means comprises a plurality of position sensing means, fixed relative to each other, and the processing means further comprises means to compare the measured relative positions of the said plurality of position sensing means, thereby providing an identification of position measurement errors.
8. (currently amended) A system according to ~~any preceding~~ claim 1 wherein the processing means identifies any radioactive source with an activity above a

pre-set level and displays the position (s) of those/or that radioactive source (s) on the display means.

9. (original) A system as claimed in claim 8 wherein the pre-set level is determined by the processing means and is a proportion of the activity level from the radioactive source with the highest activity level.